FIG.1

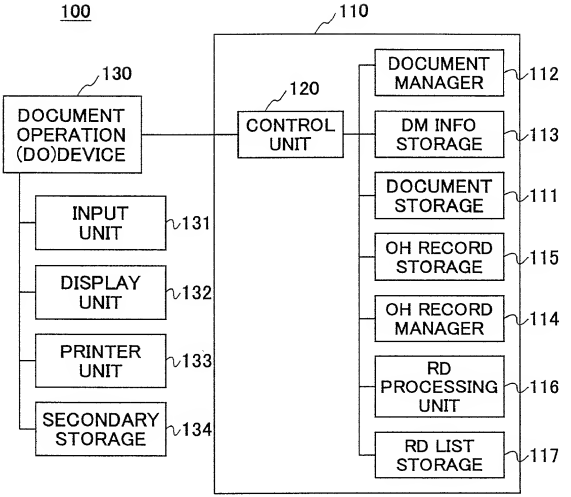

100
110
130
DOCUMENT OPERATION (DO)DEVICE
120
CONTROL UNIT
DOCUMENT MANAGER
112
DM INFO STORAGE
113
DOCUMENT STORAGE
111
OH RECORD STORAGE
115
OH RECORD MANAGER
114
RD PROCESSING UNIT
116
RD LIST STORAGE
117
INPUT UNIT
131
DISPLAY UNIT
132
PRINTER UNIT
133
SECONDARY STORAGE
134

FIG.2

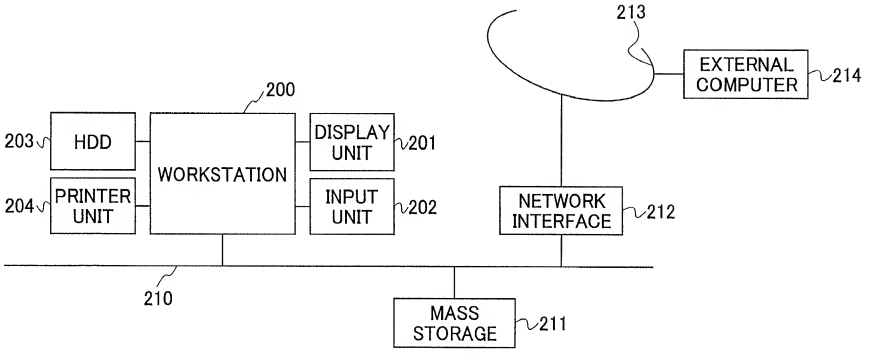

213
EXTERNAL COMPUTER
214
200
203
HDD
WORKSTATION
DISPLAY UNIT
201
204
PRINTER UNIT
INPUT UNIT
202
NETWORK INTERFACE
212
210
MASS STORAGE
211

FIG.3

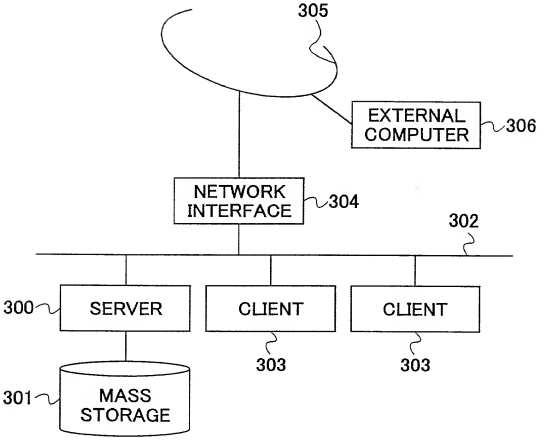

305
EXTERNAL COMPUTER
306
NETWORK INTERFACE
304
302
300
SERVER
CLIENT
CLIENT
303
303
301
MASS STORAGE

FIG.4

401 KIND OF DOCUMENT	402 NAME OF WRITER	403 NAME OF DOCUMENT	404 OPERATIONAL HISTORY	405 LOCATION OF STORAGE
TECHNICAL REPORT	AAA	A.txt	A.xls	C:¥dir1¥dirA
PATENT	AAA	B.txt	B.xls	C:¥dir2
RESEARCH PAPER	BBB	C.txt	C.xls	C:¥dir2
TECHNICAL REPORT	CCC	D.txt	D.xls	C:¥dir1¥dirA

FIG.5

411 NAME OF OPERATOR	412 DATE AND TIME OF OPERATION	413 TYPE OF OPERATION
CCC	2000/4/1/PM 14:00	NEW RECORDING
AAA	2000/4/26/PM 15:00	OVERWRITING
AAA	2000/4/26/PM 15:05	PRINTING

FIG.6

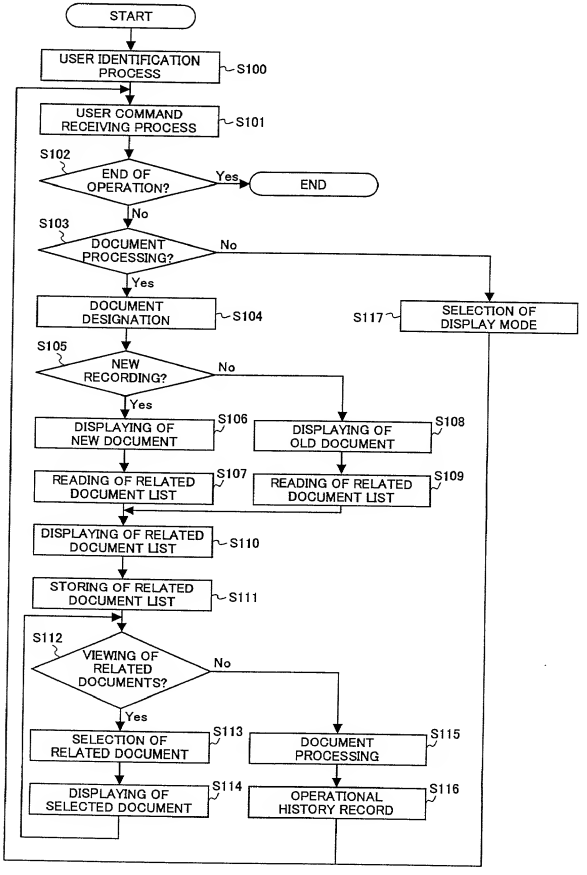

START
USER IDENTIFICATION PROCESS
S100
USER COMMAND RECEIVING PROCESS
S101
S102
END OF OPERATION?
Yes
END
No
S103
DOCUMENT PROCESSING?
No
Yes
DOCUMENT DESIGNATION
S104
S117
SELECTION OF DISPLAY MODE
S105
NEW RECORDING?
No
Yes
DISPLAYING OF NEW DOCUMENT
S106
DISPLAYING OF OLD DOCUMENT
S108
READING OF RELATED DOCUMENT LIST
S107
READING OF RELATED DOCUMENT LIST
S109
DISPLAYING OF RELATED DOCUMENT LIST
S110
STORING OF RELATED DOCUMENT LIST
S111
S112
VIEWING OF RELATED DOCUMENTS?
No
Yes
SELECTION OF RELATED DOCUMENT
S113
DOCUMENT PROCESSING
S115
DISPLAYING OF SELECTED DOCUMENT
S114
OPERATIONAL HISTORY RECORD
S116

FIG.7

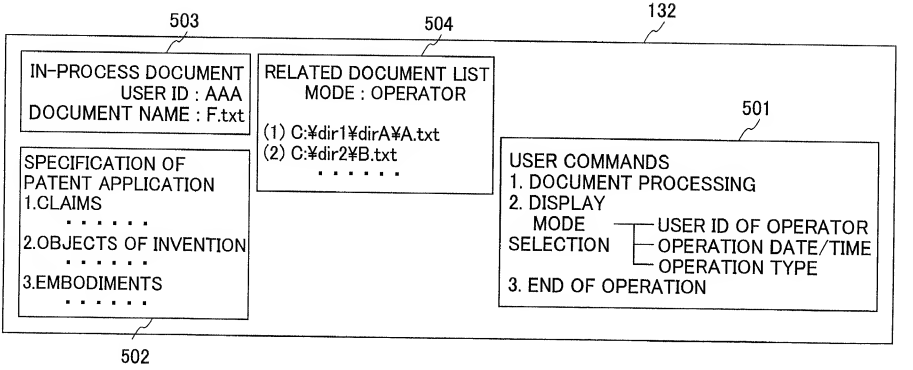

503
504
132
IN-PROCESS DOCUMENT
USER ID : AAA
DOCUMENT NAME : F.txt
RELATED DOCUMENT LIST
MODE : OPERATOR
(1) C:¥dir1¥dirA¥A.txt
(2) C:¥dir2¥B.txt
501
SPECIFICATION OF
PATENT APPLICATION
1.CLAIMS
2.OBJECTS OF INVENTION
3.EMBODIMENTS
USER COMMANDS
1. DOCUMENT PROCESSING
2. DISPLAY
MODE SELECTION
USER ID OF OPERATOR
OPERATION DATE/TIME
OPERATION TYPE
3. END OF OPERATION
502

FIG.8

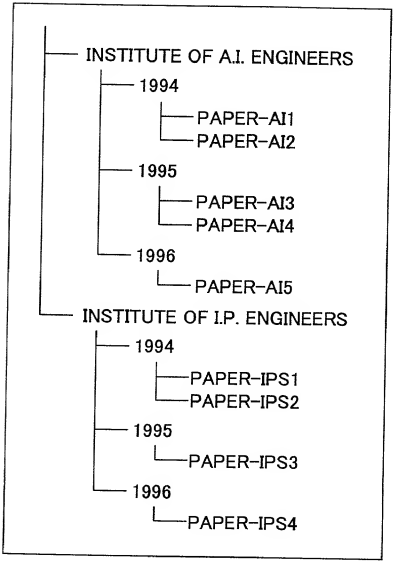

INSTITUTE OF A.I. ENGINEERS
1994
PAPER-AI1
PAPER-AI2
1995
PAPER-AI3
PAPER-AI4
1996
PAPER-AI5
INSTITUTE OF I.P. ENGINEERS
1994
PAPER-IPS1
PAPER-IPS2
1995
PAPER-IPS3
1996
PAPER-IPS4

FIG.9

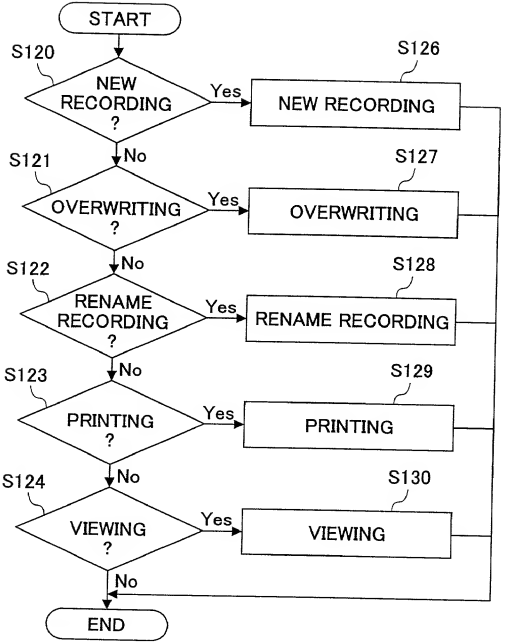

START
S120
NEW RECORDING ?
Yes
S126
NEW RECORDING
No
S121
OVERWRITING ?
Yes
S127
OVERWRITING
No
S122
RENAME RECORDING ?
Yes
S128
RENAME RECORDING
No
S123
PRINTING ?
Yes
S129
PRINTING
No
S124
VIEWING ?
Yes
S130
VIEWING
No
END

FIG.10

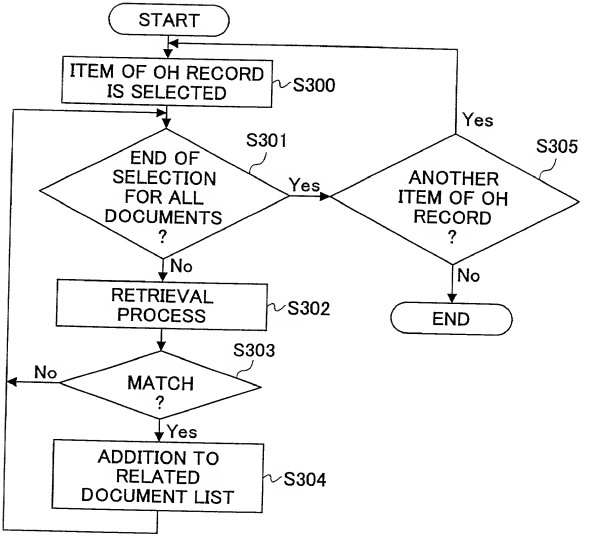

START
ITEM OF OH RECORD IS SELECTED
S300
END OF SELECTION FOR ALL DOCUMENTS ?
S301
Yes
No
ANOTHER ITEM OF OH RECORD ?
S305
Yes
No
END
RETRIEVAL PROCESS
S302
MATCH ?
S303
No
Yes
ADDITION TO RELATED DOCUMENT LIST
S304

FIG.11

601 KIND OF DOCUMENT	602 NAME OF WRITER	603 NAME OF DOCUMENT	604 OPERATIONAL HISTORY	605 LOCATION OF STORAGE	606 RD INDICATION LIST
TECHNICAL REPORT	AAA	A.txt	A.xls	C:¥dir1¥dirA	C:¥dir2¥B.txt,C:¥dir2¥C.txt
PATENT	AAA	B.txt	B.xls	C:¥dir2	C:¥dir1¥dirA¥A.txt
RESEARCH PAPER	BBB	C.txt	C.xls	C:¥dir2	C:¥dir1¥dirA¥A.txt
TECHNICAL REPORT	CCC	D.txt	D.xls	C:¥dir1¥dirA	C:¥dir1¥E.txt

FIG.12

611 USER ID OF OPERATOR	612 OPERATION TYPE	613 OPERATION TIME PERIOD	614 NO. OF REFERENCE ACCESSES	615 AMOUNT OF COPIED DATA
CCC	NEW RECORDING	2000/4/1/PM 14:00- 2000/4/1/PM 14:05	4.C:¥dir1¥F.txt 3.C:¥dir2¥B.txt	35.C:¥dir1¥F.txt 20.C:¥dir2¥B.txt
AAA	OVERWRITING	2000/4/26/PM 15:00- 2000/4/26/PM 15:30	8.C:¥dir1¥G.txt	0
AAA	PRINTING	2000/4/26/PM 15:30- 2000/4/26/PM 15:31	0	0

FIG.13

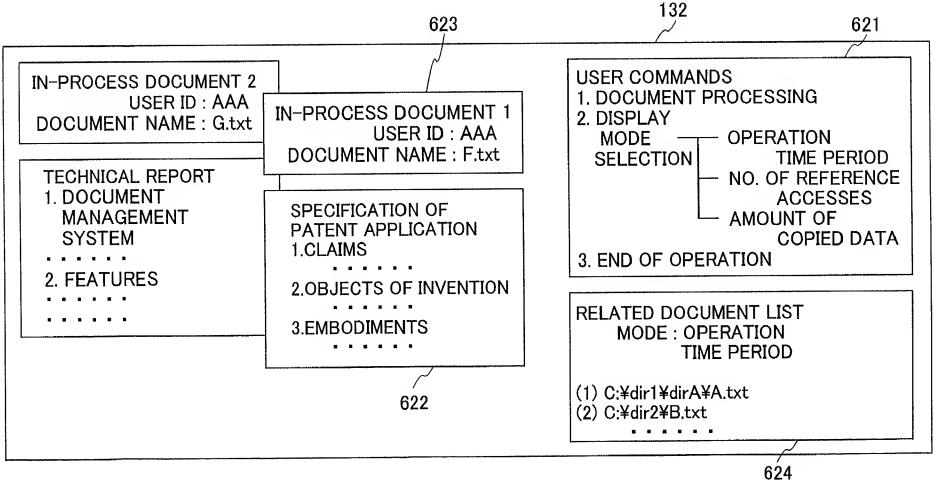

623
132
621
IN-PROCESS DOCUMENT 2
USER ID : AAA
DOCUMENT NAME : G.txt
IN-PROCESS DOCUMENT 1
USER ID : AAA
DOCUMENT NAME : F.txt
TECHNICAL REPORT
1. DOCUMENT MANAGEMENT SYSTEM
. . . . . .
2. FEATURES
. . . . . .
. . . . . .
SPECIFICATION OF PATENT APPLICATION
1.CLAIMS
. . . . . .
2.OBJECTS OF INVENTION
. . . . . .
3.EMBODIMENTS
. . . . . .
622
USER COMMANDS
1. DOCUMENT PROCESSING
2. DISPLAY
MODE SELECTION
OPERATION TIME PERIOD
NO. OF REFERENCE ACCESSES
AMOUNT OF COPIED DATA
3. END OF OPERATION
RELATED DOCUMENT LIST
MODE : OPERATION TIME PERIOD
(1) C:¥dir1¥dirA¥A.txt
(2) C:¥dir2¥B.txt
. . . . . .
624

FIG.14

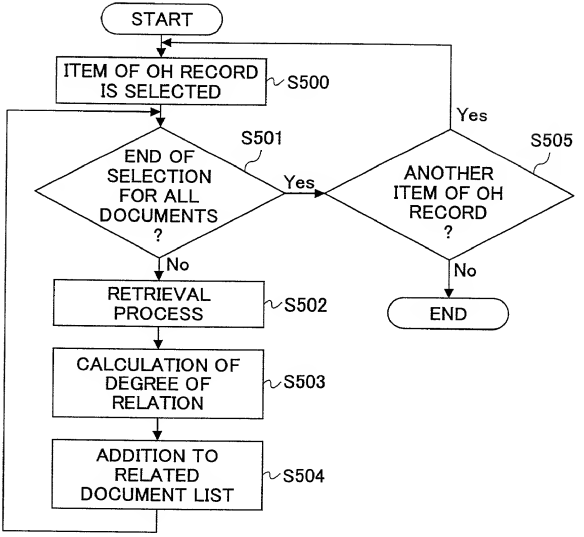

START
ITEM OF OH RECORD IS SELECTED
S500
END OF SELECTION FOR ALL DOCUMENTS ?
S501
Yes
No
ANOTHER ITEM OF OH RECORD ?
S505
Yes
No
END
RETRIEVAL PROCESS
S502
CALCULATION OF DEGREE OF RELATION
S503
ADDITION TO RELATED DOCUMENT LIST
S504

FIG.15

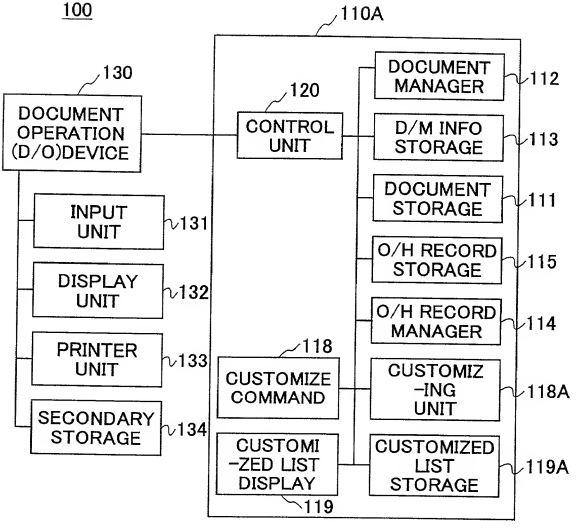

100
110A
130
DOCUMENT OPERATION (D/O)DEVICE
120
CONTROL UNIT
DOCUMENT MANAGER
112
D/M INFO STORAGE
113
DOCUMENT STORAGE
111
O/H RECORD STORAGE
115
O/H RECORD MANAGER
114
INPUT UNIT
131
DISPLAY UNIT
132
PRINTER UNIT
133
SECONDARY STORAGE
134
118
CUSTOMIZE COMMAND
CUSTOMIZ -ING UNIT
118A
CUSTOMI -ZED LIST DISPLAY
119
CUSTOMIZED LIST STORAGE
119A

FIG.16

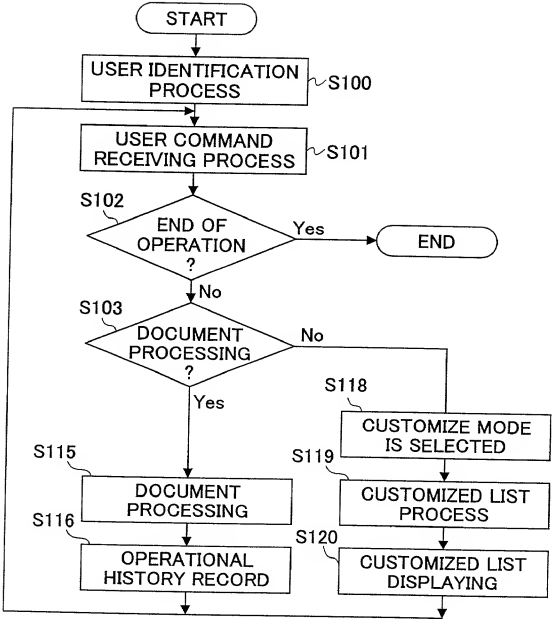

START
USER IDENTIFICATION PROCESS
S100
USER COMMAND RECEIVING PROCESS
S101
S102
END OF OPERATION ?
Yes
END
No
S103
DOCUMENT PROCESSING ?
No
Yes
S118
CUSTOMIZE MODE IS SELECTED
S115
DOCUMENT PROCESSING
S119
CUSTOMIZED LIST PROCESS
S116
OPERATIONAL HISTORY RECORD
S120
CUSTOMIZED LIST DISPLAYING

FIG.17

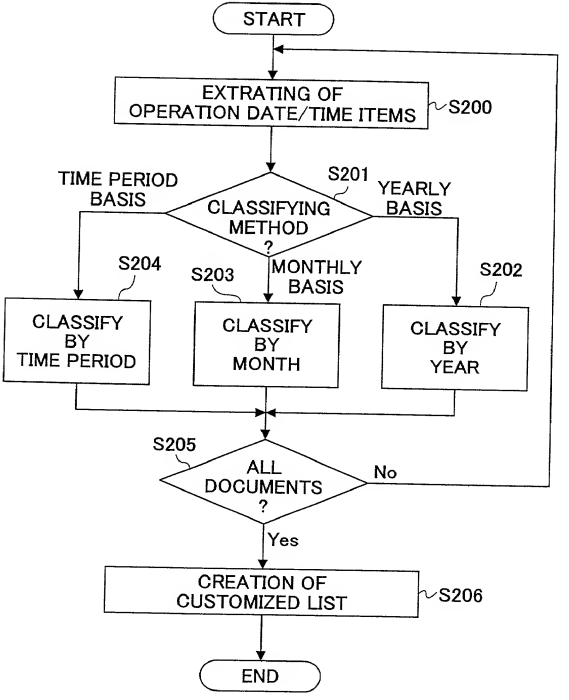

START
EXTRATING OF OPERATION DATE/TIME ITEMS
S200
S201
TIME PERIOD BASIS
CLASSIFYING METHOD ?
YEARLY BASIS
MONTHLY BASIS
S204
S203
S202
CLASSIFY BY TIME PERIOD
CLASSIFY BY MONTH
CLASSIFY BY YEAR
S205
ALL DOCUMENTS ?
No
Yes
CREATION OF CUSTOMIZED LIST
S206
END

FIG.18

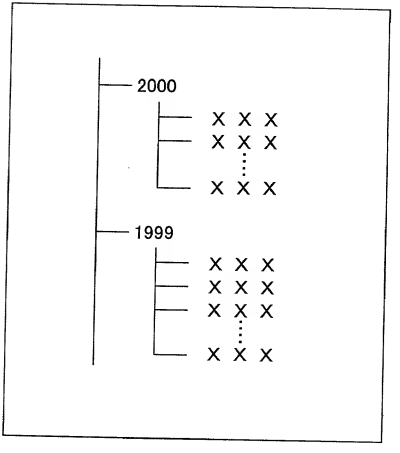


FIG.19

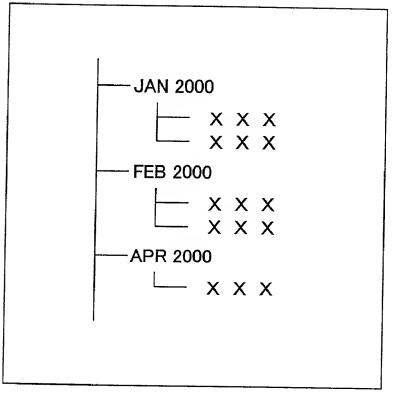


FIG.20

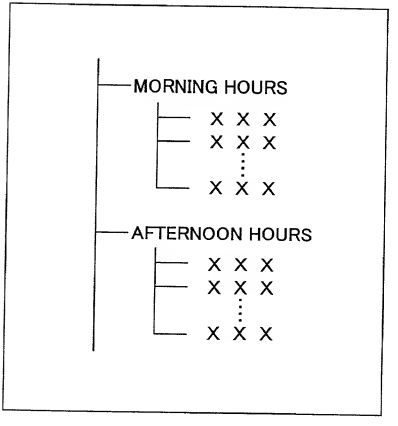


FIG.21

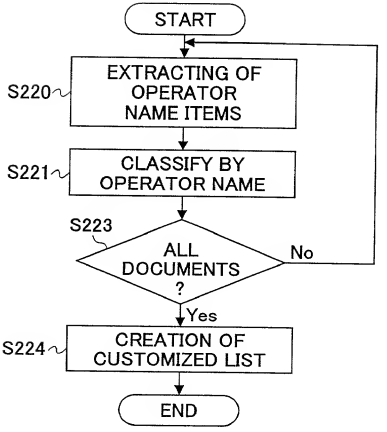

START
S220
EXTRACTING OF OPERATOR NAME ITEMS
S221
CLASSIFY BY OPERATOR NAME
S223
ALL DOCUMENTS ?
No
Yes
S224
CREATION OF CUSTOMIZED LIST
END

FIG.22

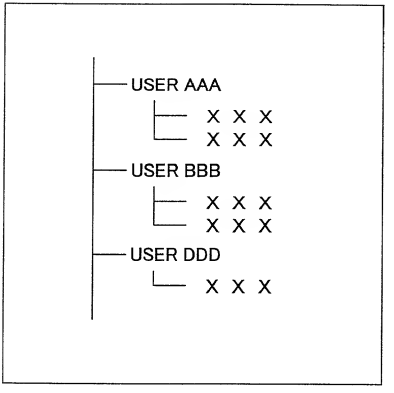


FIG.23

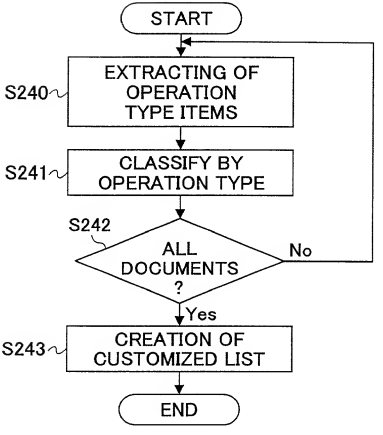

START
S240
EXTRACTING OF OPERATION TYPE ITEMS
S241
CLASSIFY BY OPERATION TYPE
S242
ALL DOCUMENTS ?
No
Yes
S243
CREATION OF CUSTOMIZED LIST
END

FIG.24

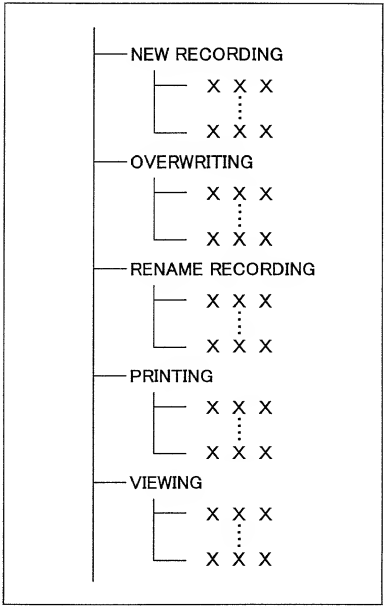

NEW RECORDING
X X X
X X X
OVERWRITING
X X X
X X X
RENAME RECORDING
X X X
X X X
PRINTING
X X X
X X X
VIEWING
X X X
X X X

FIG.25

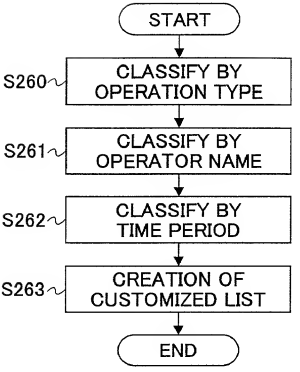

START
S260
CLASSIFY BY OPERATION TYPE
S261
CLASSIFY BY OPERATOR NAME
S262
CLASSIFY BY TIME PERIOD
S263
CREATION OF CUSTOMIZED LIST
END

FIG.26

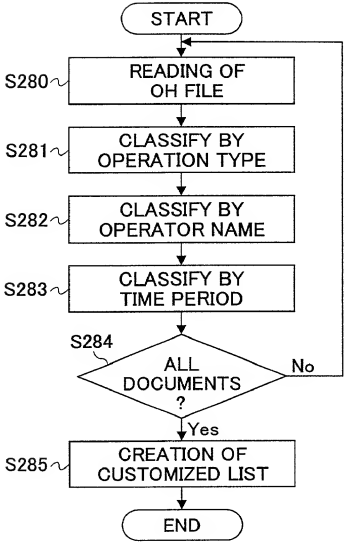

START
S280
READING OF OH FILE
S281
CLASSIFY BY OPERATION TYPE
S282
CLASSIFY BY OPERATOR NAME
S283
CLASSIFY BY TIME PERIOD
S284
ALL DOCUMENTS ?
No
Yes
S285
CREATION OF CUSTOMIZED LIST
END

FIG.27

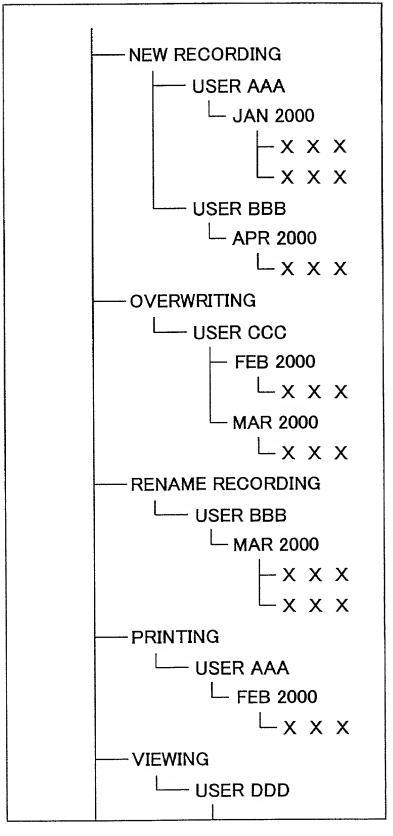

NEW RECORDING
USER AAA
JAN 2000
X X X
X X X
USER BBB
APR 2000
X X X
OVERWRITING
USER CCC
FEB 2000
X X X
MAR 2000
X X X
RENAME RECORDING
USER BBB
MAR 2000
X X X
X X X
PRINTING
USER AAA
FEB 2000
X X X
VIEWING
USER DDD

FIG.28

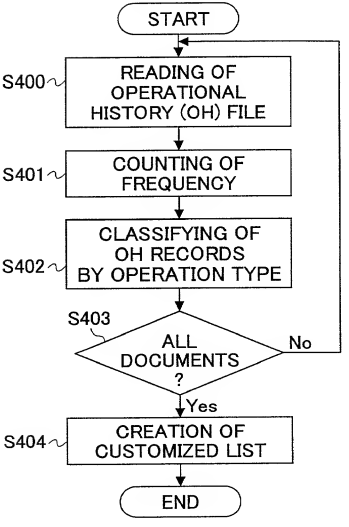

START
S400
READING OF OPERATIONAL HISTORY (OH) FILE
S401
COUNTING OF FREQUENCY
S402
CLASSIFYING OF OH RECORDS BY OPERATION TYPE
S403
ALL DOCUMENTS ?
No
Yes
S404
CREATION OF CUSTOMIZED LIST
END

FIG.29

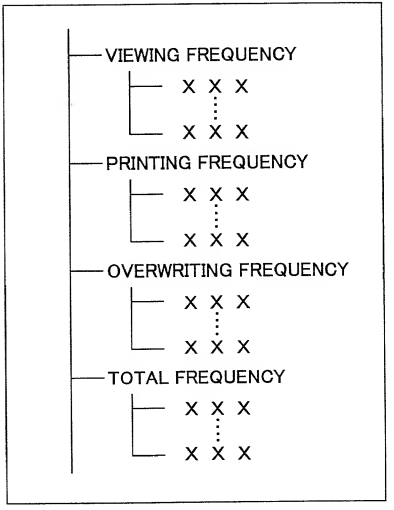
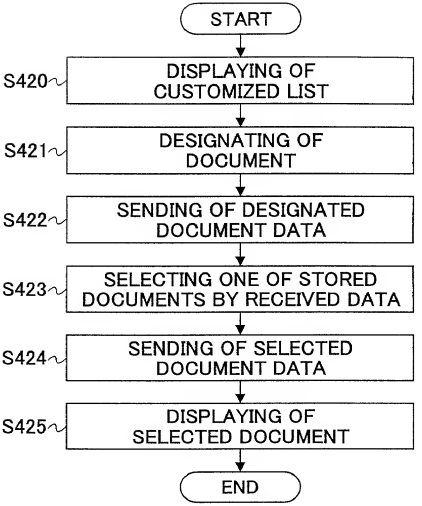

VIEWING FREQUENCY
X X X
X X X
PRINTING FREQUENCY
X X X
X X X
OVERWRITING FREQUENCY
X X X
X X X
TOTAL FREQUENCY
X X X
X X X

FIG.30


START
S420
DISPLAYING OF CUSTOMIZED LIST
S421
DESIGNATING OF DOCUMENT
S422
SENDING OF DESIGNATED DOCUMENT DATA
S423
SELECTING ONE OF STORED DOCUMENTS BY RECEIVED DATA
S424
SENDING OF SELECTED DOCUMENT DATA
S425
DISPLAYING OF SELECTED DOCUMENT
END